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Cherry Leaf Spot

MONTMORENCY TREES ON LEFT SPRAYED AS OUTLINED IN THIS CIRCULAR. THOSE ON RIGHT, SPRAYED WITH LIME SULFUR ONLY, WERE DEFOLIATED BY AUGUST. PICTURE TAKEN IN OCTOBER

Complete defoliation of sour cherry trees by August or early September and occasionally as early as July is not an unusual occurrence in New Jersey. This early defoliation, which is caused by a fungus disease known as cherry leaf spot, decreases the vigor of the tree, reduces the size and quality of the succeeding crop, and increases the susceptibility of the tree to winter injury. The successful control of leaf spot is therefore, of vital importance in cherry production in New Jersey.

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Symptoms

Numerous small dark red or reddish brown spots may occur on the leaf. They may be spread over the entire leaf blade or confined to one section of it. Usually the leaf turns yellow and drops from the tree. This stage is sometimes referred to as "yellow-leaf."

Cause

The cherry leaf spot disease is caused by a fungus known as *Coccomyces hiemalis.* The spores that produce the first infections in the spring or early summer come from decaying infected leaves of the previous year. These spores, which are discharged during wet periods, are carried by air currents to cherry foliage where they may produce infections. From these diseased spots are produced numerous summer spores which may further spread the disease. During seasons favorable for cherry leaf spot development, the spread of this disease is very rapid on leaves not properly protected by a suitable fungicide.

Control

Good cultural care of the orchard, including proper pruning, good fertilization, and cultivation, which is helpful in maintaining the vigor of the trees, aids materially in reducing the loss from leaf spot.

Spraying is the only direct means of control. Where the disease has been severe, five sprays, properly timed and applied, have been found to give good leaf spot control.

Lime-sulfur 1-50 is recommended for the shuck split and first cover spray applications. The first cover spray should be applied about 10 days after the shuck split spray. For the remainder of the spray applications a suitable copper fungicide should be used. The third application should be made just as the fruit begins to show color, and should consist of one of the commercial copper fungicides at the strength recommended by the manufacturer. Three pounds of lime should be used in the preparation of each 100 gallons of this spray material.

The first post-harvest spray should be applied as soon as the fruit is picked; and the second, about two weeks later. For the post-harvest applications, tank-mixed copper phosphate at the strength of 2 pounds of copper sulfate, 2 pounds of trisodium phosphate, and 6 pounds of hydrated lime per 100 gallons of water has given excellent control of leaf spot. This spray

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material is prepared by dissolving the copper sulfate (snow) in water that is being agitated in a clean spray tank. When the copper sulfate has gone into solution, the trisodium phosphate powder is added to the tank. After these two materials have been mixed together well, the lime is added. A spreader helps this combination. The commercial copper fungicides as recommended for the color spray have also given good results in post-harvest applications.

Where Japanese beetles are a problem, the addition of aluminum sulfate and a large amount of lime to the mixture is a distinct advantage, as such materials improve the beetle-repelling properties of the spray residue. Where such an addition is to be made, 10 pounds of lime, instead of the quantities already prescribed, and $1\frac{1}{2}$ pounds of aluminum sulfate should be used in each 100 gallons of spray material prepared. When used in combination with the tank-mixed copper phosphate, the aluminum sulfate should be the last ingredient added to the water in the tank.

A revision, prepared by Robert H. Daines, Assistant Plant Pathologist, of New Jersey Agricultural Experiment Station Circular 191.